

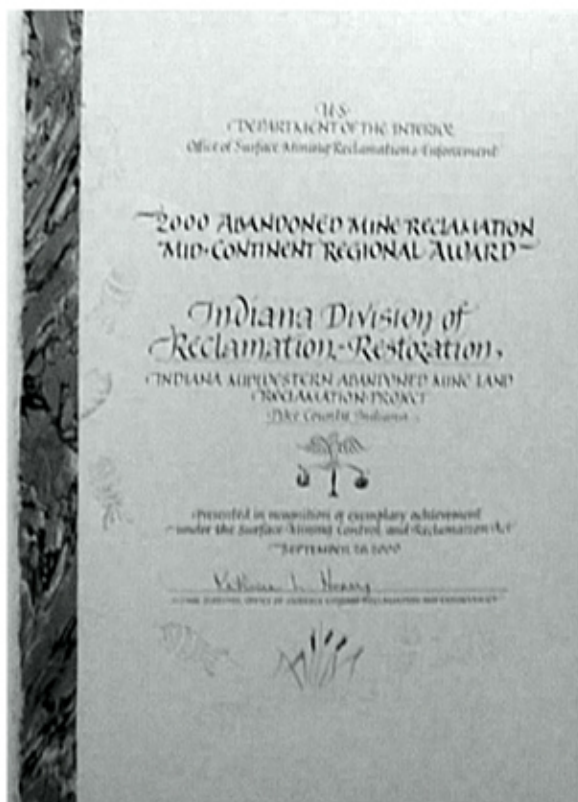


*On the ground results...*

# ANNUAL REPORT

Indiana Department of Natural Resources





Mid-Continent Regional Award



People's Choice Award

U. S. Department of Interior  
Office of Surface Mining Reclamation & Enforcement  
2000 Abandoned Mine Reclamation Awards



**ABOVE:** *Midwestern Mining Site - Before Reclamation*

**FRONT COVER:** Reclamation of the Midwestern Mine site was completed by the Indiana Restoration Program in October, 1997. This outstanding reclamation project was recognized by the federal Office of Surface Mining with both their Mid-Continent Abandoned Mine Land Reclamation Award for 2000 and their People's Choice Award for 2000. The 270-acre site, located in Pike County, was mined by four companies who went bankrupt along with their bonding companies. Reclamation at this site improved site safety and reduced environmentally degrading conditions. Specific accomplishments included backfilling or removing 4,400 feet of dangerous highwalls and neutralizing and discharging approximately 30 million gallons of acid water. Erosion and sedimentation were reduced by regrading and vegetating 250 acres of acidic mine spoil. Instead of disturbing nearby land to obtain fill-dirt, coal combustion waste was used. This alternate material proved beneficial for enhancing the quality of the water leaving the reclaimed site. Studies performed by the Indiana Geological Survey after the site was reclaimed have confirmed the improved water quality.

**PROJECT MANAGER:** Craig Wolfe, Division of Reclamation, Jasonville, IN.  
**DESIGNER:** ATC Associates, Indianapolis, IN.  
**CONTRACTOR:** Foertsch Construction Company, Lamar, IN.



## A Message from the Director:

*"Don't just train staff.  
Create an environment within which  
individuals are encouraged and allowed to excel.*

*Training, growth and results will be the natural and overwhelming product."*

*Doug Krug, Enlightened Leadership: Getting to the Heart of Change.*

**Bruce Stevens, Director  
Division of Reclamation**

The greatest asset of any organization is its staff. Dedicated staff. Professional staff. The behaviors and actions of staff are the key to providing superior results. It is our staff which enable the Division of Reclamation to perform reliably and with enhanced results year after year. The Division of Reclamation staff is not the largest in number compared with other state or national regulatory agencies. It does not have the largest budget. Still, performance is immense and turnover is low. The reason is simply that the Division is blessed with staff who take their role seriously and have the ability to get the job done. Comprised of four program functions and various disciplines and duties, the Division of Reclamation continues to live up to its vision: *"Leading a Change in Indiana Government."*

As you will see in this report, the Division has lots of ambition and delivers staggering results. These results demonstrate the worthiness and advantages of our goal of continuous improvement through strategic planning. Annually, staff have the most vital role in this effort to determine the future direction of the Division. Through *"Operation Excellence"* (OPEX), the strategic planning initiative of the Division; the staff review, research, and present their results to enhance performance and deliver better service to our customers. *Operation Excellence* is now in its seventh edition. OPEX is the focal point for all employees to align their efforts around a common mission, set of goals and action plans. Management is committed to assisting staff in their pursuit of continuous improvement for the benefit of all Hoosiers.

This report focuses on the contributions of the staff of the Division of Reclamation - staff that are experienced, intuitive, innovative and always taking the initiative. While many challenges lie ahead, including budgetary constraints and uncertain federal and state funding, commitment of staff is unquestionably certain. I can state definitively, I am honored and proud to lead the Division of Reclamation into the 21st century.



*Bruce A. Stevens*



## MISSION STATEMENT OF THE DIVISION OF RECLAMATION

We, the employees of the Division of Reclamation, are dedicated to professional public service through effective administration of Indiana's mine reclamation laws. We are committed to ensuring optimum management of natural resources and public protection both during and after mining.



## Commitment to Public Outreach and Education

### Public Outreach

The Division has become known nationally for its innovative approach to public participation. Jack McGriffin has spoken at national conferences for the American Society for Quality (ASQ), the Office of Surface Mining (OSM) and the Environmental Protection Agency (EPA). The Stakeholder Outreach Team provides trained facilitators to conduct public meetings. Contact with citizens may begin prior to any proposed mining. The Division welcomes the opportunity to explain to citizens about basic mining procedures and compliance regulations. Follow up surveys provide feedback on the effectiveness of staff communication and resolution of citizen queries for information. For its public outreach program, the Division was awarded the 1999 State of Indiana Quality Improvement Award.

Feedback from previous surveys indicated that staff responses were often too technical or bureaucratic. Comments from our customers resulted in the in-house development of a "Communications in Conflict" course that was presented to all Division staff to increase their communication skills. Jack McGriffin, Virginia Sheets, Dave Phillips, Colleen Baughman and Kevin Geier served as instructors for the course. Additionally, supervisors and senior staff were able to attend a department workshop on Systematic Development of Informed Consent. Courses are planned for the future that will focus on dispute resolution alternatives.



Photo courtesy of Natural Resources Conservation Service

**ABOVE:** Brock Mayes, Reclamation Specialist, facilitates a meeting of the Turtle Creek Steering Committee. The group of landowners and other interested parties meet to review the environmental health of the Turtle Creek reservoir and surrounding watershed.



**RIGHT:** standing at the flipchart, Ramona Briggeman, Reclamation Specialist, discusses with other trainers her lesson on the stages of team development. From left to right: Jack McGriffin, Craig Scott, and Virginia Sheets.





## Education

Available from the Division are publications on the general regulations and requirements of the restoration program and citizen guides for blasting and soil reclamation. Every spring the Division sponsors an Earth Day celebration and field trip for fifth graders from a school system in the coal region. Staff serve as judges for science fairs, provide classroom technical support for Shakamak M.S.D. middle school, and help with student research projects on physical and natural science - not all of which are coal related. The magnitude of the education effort has resulted in Colleen Baughman, a licensed teacher, becoming the education coordinator for the Division and the chair for the education initiative of the Interstate Mining Compact Commission (IMCC).

Under Colleen's leadership; this past year, staff spoke to over 3,500 students and adults about coal mining and how it affects our environment, economy and lifestyles. Speakers and tours were provided for Ball State University, Indiana University, Indiana State University, IUPUI, Purdue University, Vincennes University, University of Southern Indiana, and University of Wisconsin-Platteville. The IMCC, in cooperation with the Indiana Division of Reclamation and other state reclamation programs, sponsored a Minerals Education Workshop on November 3-4, 2000, their second workshop in the nation for teachers. Forty-eight teachers from Indiana and Illinois attended the workshop in Terre Haute, Indiana. Colleen and instructors from other coal mining states conducted a participatory workshop on minerals, mining and the economic value of mining. The Division is planning to make this workshop an annual event.

### Quotes from the teachers who attended the Minerals Education Workshop

*"I just REALLY enjoyed this workshop, and I feel rejuvenated and energized for the classroom again."*

*"The rock and mineral identification was very good (outstanding)!"*

*"The Birdseed Mining was great! I think students would love it!"*

*"Loved the hands on activities."*

**BELOW:** Colleen Baughman (center), Workshop Director, assists with one of the many hands-on exercises.



**ABOVE:** The Minerals Education Workshop tours the Farmersburg Mine.





## Commitment to the Restoration of Derelict Mined Lands

The Restoration staff has committed over \$80 million since 1982 to the reclamation of eligible coal mined lands that contained safety hazards and environmentally degrading conditions throughout the coal fields of southwest Indiana. These accomplishments have been completed with creativity, innovation, and dedication to timeliness and cost efficiency.

Unit Price Contracting continues to be a bright star of achievement for the Restoration Program. This approach was deemed a finalist by the prestigious Council of State Governments in their Innovation Awards program for 2000. This innovative contracting approach, developed with the DNR Division of Engineering and the Department of Administration Public Works Division, was declared a winner for the 2000 State of Indiana Quality Improvement Award. Fifty-two sites were reclaimed during this past year through the application of the unit price contracting method.

The Restoration program oversaw the planting of 154,100 trees on six reclamation sites in the Spring of 2000. This cooperative effort with the Division of Forestry and private landowners has established over a dozen tree species on mined lands once considered incapable of supporting productive vegetation.



***ABOVE:** From left to right: Reclamation Specialist, Todd Sellers; Restoration Environmental Specialist, Mark Stacy; and Reclamation Specialist, Ramona Briggeman, prepare to plant trees on an AML site.*



Restoration Field Operations Coordinator, Tom Thomas, has teamed with DNR pilot, Dennis Rumley, to take aerial photographs of all Indiana abandoned coal mine sites proposed for restoration design work. This has enhanced the restoration design process and provides better design information to prospective contractors. Prior to a project bid date, a prospective contractor can obtain a 3-D AutoCAD model of any construction plan set from the Division FTP file server or request a copy on computer diskette.

***LEFT:** Tom Thomas reviews aerial photographs.*





Partners For Reclamation was initiated in 1999 in conjunction with Sycamore Trails and Four Rivers Resource Conservation and Development Councils as well as county Soil and Water Conservation District Boards. The program allows individual landowners to participate in determining the extent of reclamation to be performed on their land and in the maintenance of the completed project. This program addresses smaller reclamation projects which are vital to the affected property owner as well as for the Restoration Program. Five projects have been completed with at least four more to commence in the next year.



Alternative and recycled materials are used whenever possible as part of any restoration project. These industrial or agricultural by-products are generally used to supply needed alkalinity or fertility. All potential materials are evaluated prior to use to determine if they can improve the quality of the reclamation project or reduce the cost of reclamation. The materials used to date have accomplished both goals.

***Below:** Tom Thomas oversees the creation of a wetland basin at the Sugar Ridge Mine in Pike County. A mixture of lime and turkey manure is used to provide a nutrient-rich bed for the wetland vegetation that will be planted later.*



*Above from left to right: Restoration staff, **Jim Metzger** and **Louie Ladislas**, review plans with **Dan Weese**, AML Coordinator for Sycamore Trails RC&D.*



3,000 tons of AEP Rockport alkaline bottom ash were used to treat acid mine drainage seeps.



3,200 tons of "Soilermaker", produced by Eli Lilly in conjunction with Purdue University, were used to neutralize and fertilize coal slurry instead of using soil to cover the slurry.



2,500 tons of turkey manure were used for wetland planting soil to increase fertility.



# INDIANA MINING AND RECLAMATION HALL OF FAME

## Commitment to Excellence in Mining and Reclamation

The Division of Reclamation recognized Black Beauty Coal Company for its reclamation efforts at their Columbia Mine with the presentation of the 1999 Indiana Excellence in Mining and Reclamation Award (EMRA). The company exceeded the requirements of the state and federal statutes regarding reclamation and instituted several new and innovative practices.

The Black Beauty site was recommended to the Interstate Mining Compact Commission (IMCC) for their national competition. The site proceeded to win the IMCC National Mine Reclamation Award – Coal Category. The reclamation completed at the site by Black Beauty Coal Company and Vigo Coal Company was then chosen for recognition by the Department of Interior, Office of Surface Mining (OSM). Both companies jointly received the Excellence in Surface Mining Reclamation Award.

Black Beauty Coal Company and Vigo Coal Company are the latest award winners and join a long list of Indiana companies who have been recognized for their high quality standards in mining and reclamation. The awards given to mining operations in Indiana include:

Company	Mine	EMRA	OSM	IMCC
Amax	Ayrshire	1986		
PV-Mining	Backbone/Ackeman	1987		
Black Beauty	Arlen	1988		
Vigo Coal	Discovery #1	1989	1989	1990
Solar Sources	Sky-Point		1990	
Fowler	A&P Pit & US 50	1990	1990	
Foerstch	Little Sandy 1	1991		
Solar Sources	Pit 12	1992	1997	1993
Phoenix	Pit 3	1993		
Phoenix	Satellite	1994		
UMI/BBC	Deer Ridge	1995		1996
Triad	Switz City	1996		
Vigo Coal	Discovery #2	1997		
Black Beauty/Vigo	Columbia	1999	2000	2000
Kindill Mining	Kindill 2-Alford Field	2000		

The awards are the result of good planning and engineering, comprehensive environmental review and permitting, regulatory compliance, thorough site inspection, careful attention to all details of successful reclamation, and a solid working relationship between the mining industry and the Division of Reclamation.





# INDIANA MINING AND RECLAMATION HALL OF FAME

## Commitment to Quality - State of Indiana Quality Improvement Awards

The Division of Reclamation is the only state agency to win the State of Indiana Quality Improvement Award presented by the Lt. Governor. The Division has won the award three times for the years 1998, 1999, and 2000. Each award recognized a different aspect of the pursuit for excellence by the Division.

The 1998 award focused on the Division Program "*Operation Excellence*" and the management of performance goals. The strategic plan of the Division sets forth a common direction of goals and action plans which staff develop to accomplish the vision and mission of the Division.

The 1999 award recognized the public outreach program. The Division has developed several innovative approaches to involving citizens in its programs. Public meetings are facilitated so all attendees have an opportunity to raise questions and receive answers to their concerns. The Restoration Program initiated a Surface Mining And Reclamation Technology (SMART) Grants Program to stimulate research and development of new reclamation methods. The Restoration Program began a Partners in Reclamation Program to provide small grants to soil and water conservation districts for landowners to reclaim smaller, low priority sites.

The 2000 award was in the running for the Council of State Governments Innovation Award. The Restoration Program has developed a unit price contracting initiative with the Division of Engineering and the Department of Public Works which has saved considerable time and dollars in contracting for reclamation projects.



## Winners of the 2000 State of Indiana Quality Improvement Award

*Left to Right Standing:*

**Tom Hohman**, Director, DNR Division of Engineering

**Steve Herbert**, Assistant Director, Restoration, Division of Reclamation

**Ray Brumfiel**, Restoration Project Supervisor, Division of Reclamation

*Left to Right Sitting:*

**Ed Kirby**, Restoration Realty Specialist, Division of Reclamation

**Tom Thomas**, Restoration Field Operations Coordinator, Division of Reclamation

**Dan Hause**, Restoration Chief Engineer, Division of Reclamation



## Commitment to Public Service through Enforcement of Indiana Coal Mining Laws

### Inspecting Indiana Coal Mines

Reclamation Specialists are required to inspect every active coal mine operation on a specified schedule of approximately 3100 inspections annually. What do Reclamation Specialists inspect at coal mine? During every inspection, numerous and varied environmental and operational conditions are checked. For example:



84% of the inspections involve observation of the success of the after-mining reclamation to ensure that erosion is being controlled and the land is supporting approved vegetation.



68% of the inspections include a review of how topsoil is being handled. In order for revegetation to be successful, topsoil must be properly stored during mining. As the coal mine pit moves across the landscape, the land directly behind the pit is reclaimed, regraded, and covered with the stored topsoil.



68% of the inspections involve observation of water quality. The quality of all water that leaves a mine site is evaluated. Samples are taken upstream and downstream of the mining operation. Private wells and ponds may also be monitored.

Reclamation specialists conduct inspections to make sure that all mining takes place upon land for which the coal company has a permit and permission to mine. They look at the technical aspects of the mining and reclamation operations to assure compliance with laws and future success of the reclamation. Mine operators must keep extensive records available for inspection in each mine office. Today, each reclamation specialist is responsible for about 4400 acres of land. Because of training in new technologies and an effort by the entire Division to continuously improve quality, each reclamation specialist can inspect almost twice the amount of acreage they could inspect in 1988.



*Eric Langer, Reclamation Specialist, stands next to a soil drill that is being used to verify the depth of the replaced soil at the Kindill #3 Coal Mine in Sullivan County.*

*"As a Reclamation Specialist, I get to follow the mine operation from beginning to end. It starts with the proposed plans, through the mining and reclamation, and finally, the return of the land to the owner. This has allowed me to work with citizens, government agencies, special interest groups, and operators as we work together for the common goal of coal recovery and preservation of the other involved resources such as crop productivity, water and top soil."*

**Eric Langer**





## Reclamation Regulatory Actions

Coal Production in millions of tons			
YEAR	SURFACE MINES	UNDERGROUND MINES	TOTAL
1997	27	4	31
1998	32	3	35
1999	33	3	36

### RECLAMATION NUGGETS

Since 1982, when the Division received approval to enforce the more stringent federal coal laws:

555 coal mining permits have been processed

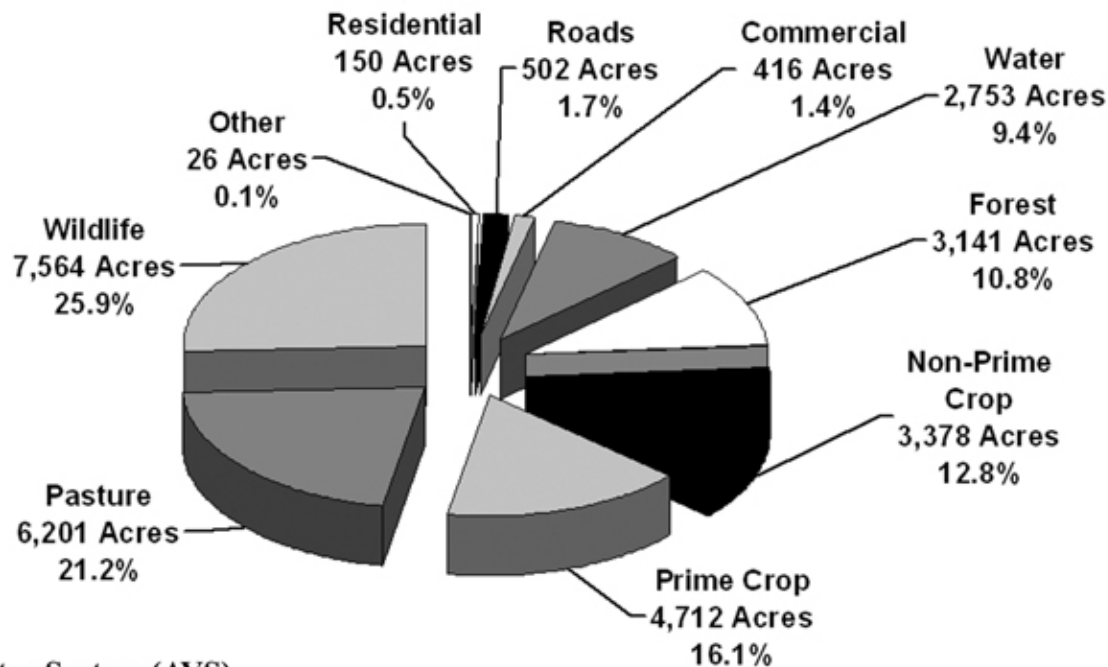
281,047 acres have been permitted for surface coal mining

After a coal mining permit is granted, it can be changed or expanded.

Each request for a change has to be reviewed and investigated. Not all requests are approved.

During 2000, there were 593 changes to active permits.

**29,203 ACRES RETURNED TO OWNERS  
FINAL BOND RELEASE 1996 - 2000**



### Applicant Violator System (AVS)

AVS is a national computer network containing the names of operators who may be responsible for violations of state programs or the federal Surface Mining Control and Reclamation Act of 1977 (SMCRA) anywhere in the United States. Those companies and individuals who have serious compliance records cannot obtain mining permits in any state. These same companies and individuals are also prevented from getting contracts for restoration of Abandoned Mine Land sites. An AVS inquiry is made every time a permit application is submitted, approved, or when there is a change in ownership and control of a mining permit. Citizens may also inquire about the record of a coal mine operator or contractor. During 2000, the Division made 162 queries of the AVS.

## Blasting Program

Steve Weinzapfel, Rick Grossman, and Phyllis Hart are in charge of conducting the field investigations of blasting complaints. If a blasting problem is suspected, seismographs are placed on the lawns and fields that are adjacent to the mining property to monitor the compliance of the mine with blasting regulations.

The scope of blasting enforcement and investigation is huge:

- \* 16,000 blasts are detonated at coal mine sites every year.
- \* 2,700 homes are located within 1/2 mile of these mines.
- \* 99.8% of the blasts comply with Indiana blasting regulations.
- \* 36 of the 47 citizen complaints (76.6%) recorded in 2000 involved blasting.
- \* 3 off-site incidents occurred from flyrock (debris landing outside the mining property).

A vital part of protecting property adjacent to a mine from blast damage is the certification of blasters. Blasters are the people responsible for placing and detonating the explosives. The Division conducts the training for the blaster certification program. At the end of training, the Division gives and grades the certification test.

***BELOW:** Blasting Specialist, **Phyllis Hart**, configures a seismograph before placing it on a lawn adjacent to a mining property.*



***ABOVE:** Blasting Team Leader, **Steve Weinzapfel**, conducts a blasting class for candidates seeking blaster certification.*





### Bonding Program

Mine operators are required to maintain bond on acres for which they have received a mining permit. The bond is revoked if reclamation is not successfully completed. In recent years, emphasis has been placed on encouraging mine operators to more quickly obtain final bond release so that the land can be returned faster to the property owner. Until the land is returned to the property owner, the Division of Reclamation is obligated to continue inspections. As the inventory of reclaimed acreage under bond diminishes, the Division can adjust staffing levels and reassign Reclamation Specialists to other duties to improve customer service. During the reporting year of October 1, 1999 through September 30, 2000, a total of \$64,832,202.12 in performance bond was submitted by coal operators. During the same period, \$94,376,610.19 of bond was released (also see "Final Bond Release" chart on page 11). On October 1, 2000, slightly over 109,700 acres were under bond.

The Restoration Program is responsible for reclamation of mine sites where bond is forfeited by the mining company or the bonding company becomes bankrupt.

<u>Restoration Contracts Completed</u>	<u>Acres Reclaimed</u>	<u>Total Cost</u>
07/01/1998 - 09/30/1999	423.9	\$ 848,702
10/01/1999 - 09/30/2000	157.7	\$5,557,864

Of the two sites completed this past year, the \$4.8 million Blackfoot project helped clean a mine site which was one of the largest acid drainage producing sites in the South Fork of the Patoka River Watershed.



*David Kiehl, Bond Coordinator, and Barbara Miller, Bond Records Manager, make sure that each mine has an adequate bond in place and proper insurance in effect.*





## Commitment to Technical Excellence

The Division has been privileged to hire and retain a technically competent staff. They have been an important key to the successful enforcement of Indiana surface coal mining law. Featured on this page are some of the staff serving in the Technical Services section of the Regulatory Program. They conduct technical reviews of every mining permit, make analytical and impact calculations, meet with landowners and operators, conduct field investigations, and make recommendations on the technical provisions of every proposed coal mining operation. This section also supplies technical support for the Restoration Section.



**Steve Wade** is certified as a professional Agronomist, Soil Scientist, Soil Specialist and Soil Classifier, and a national instructor for OSM training on soil and revegetation issues. Steve took the lead in developing the Soils Resources Citizens Guide. In August, 1999, he conducted a Surface Mine Reclamation Field Day for 130 soils professionals in Indiana. Steve is working with the University of Illinois and the Indiana Coal Council on a five-year study evaluating alternative mine soil reconstruction methods in Indiana.

***LEFT: Steve Wade** examines a soil probe to evaluate the quality and depth of the soil that has been reclaimed by the mining company after the coal has been removed.*

**Debbie Dale, Marvin, Ellis, George Morris, and Ron Pearson** serve as the Hyrdology/Geology Team for the Division. **Debbie** is a national instructor for OSM training on groundwater modeling. Water quality and quantity issues are primary concerns for landowners near mining operations. The team closely monitors the effects of mining on water resources and conducts field investigations of private wells and ponds. They assist the reclamation specialists to ensure compliance with all water resource requirements of Indiana law.



***RIGHT: Ron Pearson** and reclamation specialist, **Quentin Mangum**, retrieve a water sample from a monitoring well at a surface coal mine.*



**Alan Johnson**, engineer, investigates possible structural damage caused by blasting. Citizens who live within a half-mile of a proposed mine are encouraged to obtain a pre-blast survey as soon as they are notified that a mine will be in their area. The survey makes it easier for **Alan** to evaluate any potential damage from airblast or ground vibrations resulting from blasting at coal mines.

***LEFT: Alan** examines a crack as part of an investigation of possible blast damage.*





# CONTACT INFORMATION

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### **Blasting Information**

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### **Mine Permits**

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&  
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Richardson  
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### **Mine Inspection and Regulation Enforcement**

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### **Mine Related Water Problems**

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**1998, 1999 & 2000  
State of Indiana  
Quality Improvement Award  
Division of Reclamation**

The Division of Reclamation is the only state agency to receive the State of Indiana Quality Improvement Award

*On the ground results...*



Indiana Department of Natural Resources

**ANNUAL REPORT** is a publication of the Indiana Department of Natural Resources - Division of Reclamation. The results in this report are from *Operation Excellence* - the strategic plan and performance management program of the Division of Reclamation. For additional information refer to the contacts listed on page 15.